

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

Attorney's Docket No.: 08305/054001/PBIT-0059.00/US

REMARKS

Reconsideration and allowance of the above referenced application are respectfully requested.

Initially, applicants apologize for the clerical error, in which apparently the original drawings were filed as drawing changes. Attached find new drawing changes including the new reference designations in pink highlighter.

The objections in items 3 have been obviated by drawing amendment.

An amendment to the specification referring to all of these designations. In addition, a designation for the array center and the package center have been added, and these are also added to the specification. This should obviate the rejection based on drawings.

Reference numerals for the electrical connections have been added to figure 1 and page 3 which already described these electrical connections.

The objections to the claims based on antecedent basis have been obviated herein by amendment.

Claims 6, 11, 14 and 18 stand rejected under 35 USC 112, first paragraph, as allegedly not being supported by the specification. Claims 6 and 11 have been amended into independent form, in order to obviate the rejection by removing

Attorney's Docket No.: 08305/054001/PBIT-0059.00/US

the objected.

To objection to claims 14 and 18 have been obviated.

Claims 14, 19 and 20 stand rejected as allegedly being indefinite. Claims 14 has been amended as noted above and it is believed that this should obviate the rejection.

The objections to claims 19 and 20 are respectfully transversed. While admittedly the claim does not specifically claim light from an image being incident on the surfaces, this is because the light is not part of the structure, and hence is not part of the claimed subject matter. Clearly, however, the image sensor is recited as obtaining image information from first and second image acquiring surfaces. The word both has been added to claim 19 in order to clarify this. Also, claim 19 has been amended to specify that the image information is incident on those surfaces. This should obviate the rejection.

Numerous claims stand rejected based on specified prior art. In response, claims 1-5, 9, 10, and 14 are canceled. The rejection of the main remaining claims is respectfully traversed.

Claim 6 is rejected over Shibata in view of Kobachi. This contention is respectfully traversed. Shibata shows a basic system with a clear package, and admittedly Kobachi shows two different photosensitive elements. However, the two

Attorney's Docket No.: 08305/054001/PBIT-0059.00/US


photosensitive elements in Kobachi do not receive incoming light from different directions and through different surface as claimed. Therefore, claim 6 should be allowable for these reasons.


Claims 8 and 11-20 should all be allowable for similar reasons. Certain claims have been amended to clarify that the elements therein receive light from different directions. As described above, this is in no way taught or suggested by the cited prior art, and therefore it is respectfully suggested that all of these claims should be in condition for allowance. A formal notice to that effect is respectfully solicited. These contentions are respectfully traversed, and it is respectfully suggested that the rejection does not meet the patent office's burden of providing a prima facie showing of unpatentability.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 10/24/02

  
\_\_\_\_\_  
Scott C. Harris  
Reg. No. 32,030

Fish & Richardson P.C.  
Customer Number: 20985 \*  \*  
4350 La Jolla Village Drive, Suite 500  
San Diego, California 92122  
Telephone: (858) 678-5070  
Facsimile: (858) 678-5099

10224365.doc

Attorney's Docket No.: 08305/054001/PBIT-0059.00/US

Attached is a marked-up version of the changes being made  
by the current amendment.

Attorney's Docket No.: 08305/054001/PBIT-0059.00/US

Version with markings to show changes madeIn the specification:

Please replace the paragraph beginning at page 3, line 8 with the following rewritten paragraph:

The final device forms a standard type CMOS die in a totally clear package as shown in Figure 1. The CMOS dies, is, for example, a photosensitive device with electrical connections, for example, an active pixel sensor. The perimeter of the device has these electrical connections, which are connected to the electrical connections 108 on the image sensor chip.

In the specification page 3 after line 14 insert the following paragraph:

Figure 1 shows the package including different sizes of the different package parts. As shown in figure 1, the package center 102 is inside the array center 101. In addition, the package has a number of different size parameter shown including the size a witch's 550 mills, besides be witch's 410 mills, the size see which is 239 mills, the size of the witch's 112 mills, size the witch's 92 mills, the size F. witch is 224 mills, the size G. witch's 30 mills, the size age witch's 15 mills, and the size by a which is 39 mills.

Attorney's Docket No.: 08305/054001/PBIT-0059.00/US

In the claims:

Please cancel claims 1 -5, 9, 10, and 14.

Please amend the remaining claims as follows:

6. (Amended) [An element as in claim 1,] A packaged photosensitive element, comprising:  
a photosensitive element, having electrical connections;  
and  
a clear plastic package, having said photosensitive element mounted therein and having a plurality of surfaces, and providing a edge perimeter having electrical connections along edges of said edge perimeter, which connections are connected to said electrical connections on said photosensitive element, said clear plastic package being clear at all locations within said perimeter [further comprising]; and  
a second photosensitive element, receiving incoming light from a different direction and through a different surface than said photosensitive element.

7. (Amended) [An element as in claim 1,] A packaged photosensitive element, comprising:  
a photosensitive element, which [wherein said photosensitive] element accumulates charge using a photogate

Attorney's Docket No.: 08305/054001/PBIT-0059.00/US

having electrical connections; and

a clear plastic package, having said photosensitive element mounted therein, and providing a edge perimeter having electrical connections along all edges of said edge perimeter, which connections are connected to said electrical connections on said photosensitive element, said clear plastic package being clear at all locations within said perimeter.

8. (Amended) [A method as in claim 4,] A method, comprising:

obtaining an image sensor with electrical connections;  
forming a clear plastic package for said image sensor, with said image sensor totally encased within said clear plastic package;

forming connections on edges of a perimeter of said clear plastic package;

connecting said electrical connections of said image sensor to said connections on said clear plastic package; and  
operating said image sensor to receive light that passes through said clear plastic package [wherein said operating comprises] by accepting light from any of a plurality of different incoming angles which pass through different surfaces of said package.



Attorney's Docket No.: 08305/054001/PBIT-0059.00/US

11. (Amended) [A method as in claim 4,] A method,  
comprising:  
obtaining an image sensor with electrical connections  
[wherein said obtaining an image sensor] comprises obtaining  
first and second image sensors;  
forming a clear plastic package for said image sensor, with  
said image sensor totally encased within said clear plastic  
package;  
forming connections on edges of a perimeter of said clear  
plastic package;  
connecting said electrical connections of said image sensor  
to said connections on said clear plastic package; and  
operating said image sensor to receive light that passes  
through said clear plastic package, and using said first image  
sensor to acquire light in a first direction through said clear  
plastic package and using said second image sensor to acquire  
light in a second direction through said clear plastic package.

12. An image sensor, comprising:  
first and second image sensors; and  
a clear plastic package for said first and second image  
sensors, said clear plastic package packaging said first and  
second image sensors with said first image sensor acquiring

Attorney's Docket No.: 08305/054001/PBIT-0059.00/US

light from a first side of said clear plastic package, and said second image sensor acquiring light from a second, opposite side of said clear plastic package.

13. A sensor as in claim 12, wherein said clear plastic package has a perimeter surrounding said first and second image sensors, and an edge of said perimeter including electrical connections to said first and second image sensors.

15. An image sensor as in claim 12, wherein said first and second image sensors are CMOS image sensors.

16. An image sensor as in claim 12, wherein said first and second image sensors acquire said image using photogates.

17. A method of acquiring an image, comprising:  
packaging first and second image sensors in a single clear package; and  
acquiring an image with said first image sensor from a first side of said package, and acquiring an image from said second image sensor from a second, opposite side of said package.

Attorney's Docket No.: 08305/054001/PBIT-0059.00/US

18. (Amended) A method as in claim 17, wherein said first side of said package is on the left of the package [a reference line on an object of mounting], and said second side of said package is on the right side of the package [a reference line on said object of mounting].

19. (Amended) An image sensor, comprising:

a clear package, having a rectangular outer perimeter with image acquiring surfaces defined within said rectangular outer perimeter; and

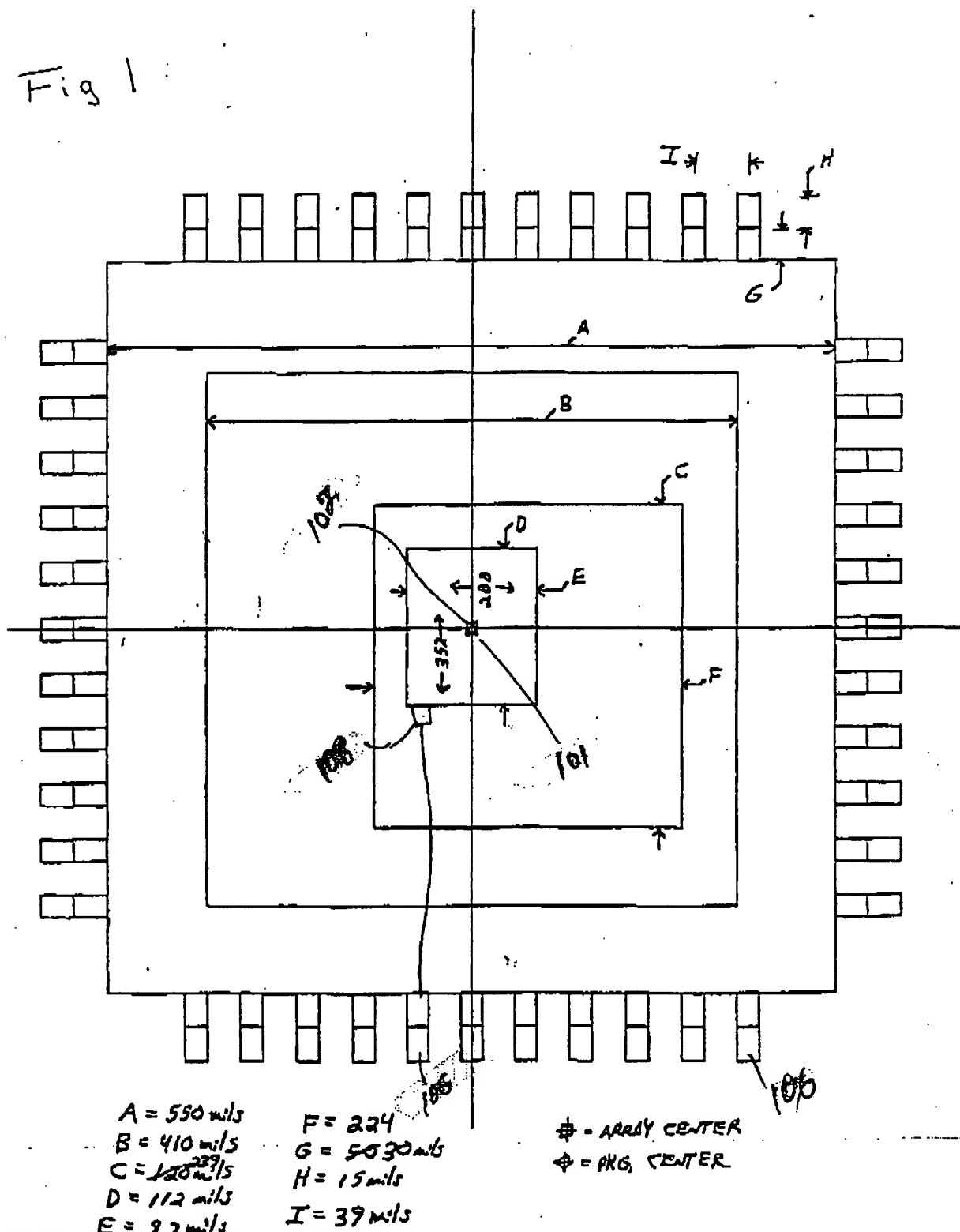
an image sensor, obtaining image information that is incident from both a first image acquiring surface and from a second opposite image acquiring surface.

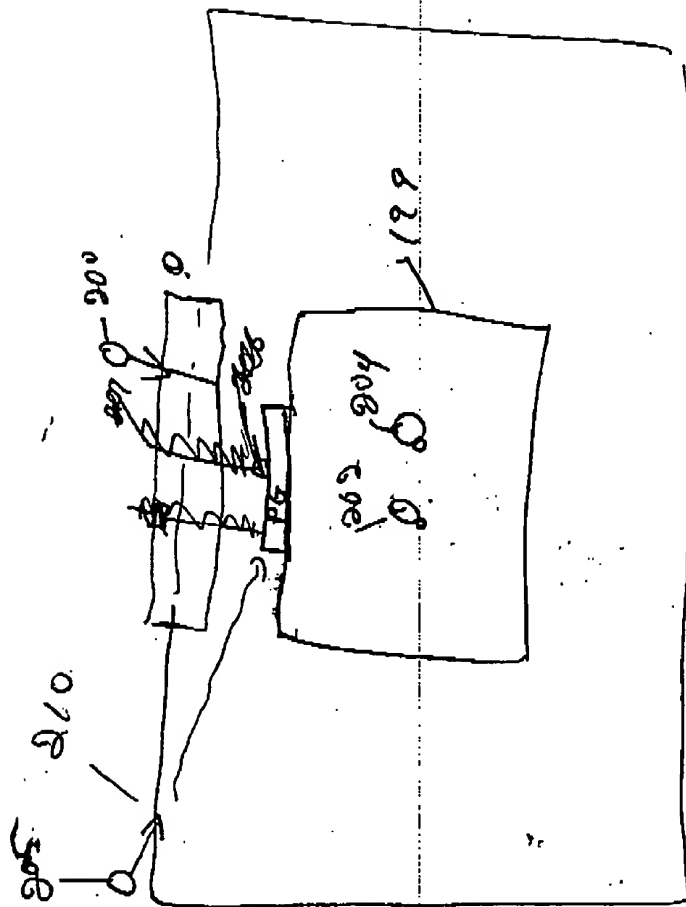
20. An image sensor as in claim 19, wherein said image sensor includes first and second image sensors facing in opposite directions.

PB-100 in QFP (44)

10-12-92  
9002

Fig 1





7/6/2

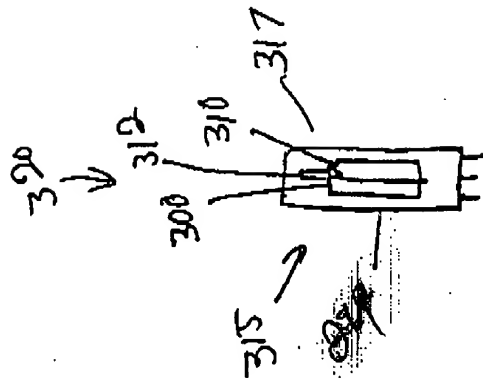


FIG 3